

ANNALS
OF THE
SOUTH AFRICAN MUSEUM.

1.—*Descriptions of New Genera and Species of South African Solpugidæ, with 8 text figures.*—By W. F. PURCELL, Ph.D.,
First Assistant.

THE present paper contains descriptions of a new *Solpuga*, a new *Blossia*, and 3 new genera of the family *Solpugidæ*. Two of the new genera are remarkable on account of the apparent absence of a flagellum on the chelicerae of the adult male, a character not hitherto found in any South African form and known only in the North American genus *Eremobates*.

As it is of the greatest importance to ascertain the maturity and sex of a specimen, when identifying it, it may be advisable to point out clearly the important sexual differences presented by the structure of the first abdominal sternite. All the South African forms in the Collection (including all known South African genera) were examined, and it was found that adult specimens could always be readily distinguished from immature specimens and the sex ascertained with certainty, quite independently of the presence of a flagellum. The sex of immature forms, although not usually required, can also be ascertained, at least in older individuals, but less readily than in the adult.

Adult male.—The sternite or hardened cuticula of the ventral surface of the first abdominal segment is composed of a right and left half joined together along the median line by soft skin. The sexual opening is a median longitudinal slit situated near the middle of the sternite in a convexly raised, spindle-shaped, oval or even

circular area, which it divides into a right and left half, each half being formed of a piece of hardened cuticula (genital sclerite), movably articulated with the adjacent half-sternite by means of a strip of soft skin. This soft skin bears no hairs and is usually sunken in, forming a curved groove. It is characteristic of the adult male that *the oval or circular area is always large, generally about half as long as the sternite itself, but sometimes longer.**

In *immature males* a similar pair of genital sclerites occurs, but they are much smaller, being only $\frac{1}{3}$ – $\frac{1}{4}$ of the sternite in length.

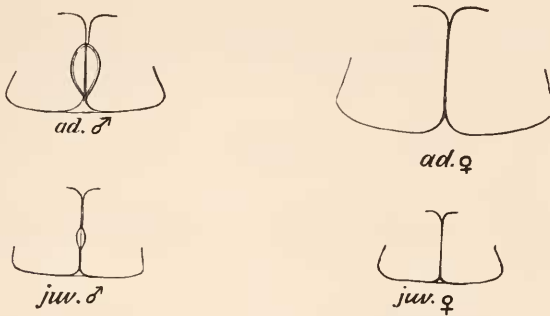


FIG. 1.—First abdominal sternite of various specimens of *Solpuga venator*, Poc. ($\times 3$ times), all from the same locality (Dunbrody).

Adult female.—In the adult female the genital sclerites are absent and the sternite is generally deeply grooved along the median line. The *sexual opening is very large and conspicuous*, being situated in the soft skin under the posterior region of the sternite, and of course not visible until this is lifted. Moreover, the hind margin of the segment is cleft or emarginated, generally strongly so, in the middle, the hind median angles of the half-sternites not being united by soft skin quite up to the hind end. The depth of this emargination or incision, as well as the shape of the sexual opening, varies considerably in the different species, and may be used as a specific or group character.

The *immature female* may be recognised from the immature male by the absence of the genital sclerites and from the adult female by the absence of a large and conspicuous sexual opening and generally also by the absence of the posterior median incision.

* In the species which were more closely examined (*S. venator*, *S. hostilis*) the hairs on the genital sclerites are pointed and differ from the majority of the hairs on the rest of the sternite, which are mostly conspicuously forked at the apex.

SUB-FAMILY SOLPUGINÆ.

GEN. SOLPUGA.

SOLPUGA COLLINITA, n. sp.

Type.—1 ♂ (No. 9764) found by Dr. H. Brauns at Willowmore, Cape Colony, in a house at night, in December, 1901.

♂. Very closely allied to *S. cervina*, Pure. (Ann. S. A. Mus., v. 1, p. 415, 1899), but distinctly differing in the structure of the apex of the flagellum.

Head-plate as in *cervina*, but more thickly covered all over with long hairs and bristles; the ocular tubercle with about 10 conspicuous setæ on anterior surface, besides a few, fine, short setæ and hairs.

Chelicerae as in *cervina*; the distal tooth of upper jaw somewhat

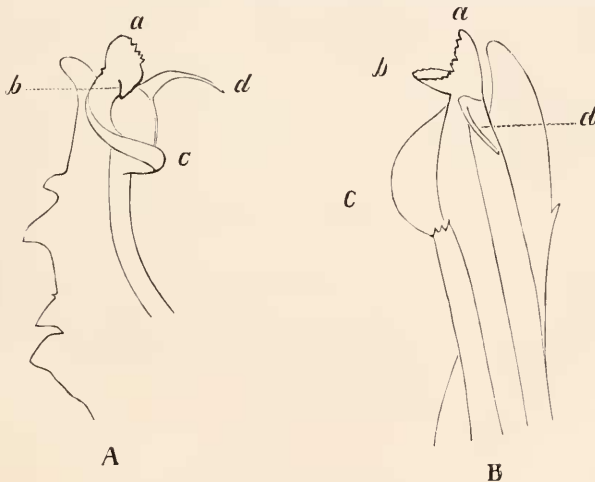


FIG. 2.—*Solpuga collinita*, n. sp., dorsal finger of left chelicera from the outer side (A), and from above (B); *a*, apical lobe; *b*, outer process of *a*; *c*, external lobe; *d*, filiform process.

smaller than the second tooth. The flagellum also similar, excepting that the sharply-pointed, curved, apical spur* is replaced by a more complicated expanded lobe (*a*, fig. 2). This lobe is laterally compressed, and appears broadly ovate with rounded apex when seen from the side (fig. 2A), while on the outer side it is provided with a

* In *cervina* this spur is really composed of 2 spurs so closely appressed that they appear at first sight to form only one piece. In the type there is a slight cleft separating the apices of the double spur.

straight acute process extending outwards at right angles from the posterior upper part (*b*, fig. 2). The upper edges of both the lobe and its process are continuously serrated. Moreover, the anterior part of the large lateral lobe (*c*, fig. 2), found in both species, is continued in the form of a spiral collar round the outer side of the flagellum to join the under side of the apical lobe. The curved filiform process (*d*, fig. 2) on the inner side near the apex is finely serrated.

Tergites of *abdomen* and *thorax* deeply infuscated, except the posterior ones, the abdominal tergites thickly clothed with long brown setæ, which are blackened at the base. Soft, pale yellowish skin on the sides of mesial and posterior abdominal segments with similar setæ, the sides of the anterior segments naked. Tergites and sides of abdomen without a coat of short fine hairs; abdominal sternites thickly covered with fine yellowish hairs.

Pedipalps remarkably long and slender as in *cervina*, the tibia equal to the metatarsus and tarsus together and about $1\frac{1}{2}$ times as long as the width of the head-plate; under side of the 3 distal segments with a number of longish truncated cylinder-bristles, which are numerous on the tarsus and metatarsus but less numerous on the tibia; distal end of pedipalps and the basal part (including base of femur) pale yellowish, the remainder dark purplish.

Legs also dark purplish, but the basal segments, the tarsi, metatarsi and upper surface of tibiæ pale yellowish, the metatarsi purplish at the sides in the basal half.

Measurements.—Total length (including chelicerae) $29\frac{1}{2}$ mm.; median length of head-plate 5, width $5\frac{1}{2}$; length of pedipalp (exclusive of coxa) $32\frac{1}{2}$; length of tibia $10\frac{1}{2}$.

SUB-FAMILY DÆSIINÆ.

GEN. BLOSSIA.

BLOSSIA LITORALIS, n. sp.

Specimens.—2 ♂♂ and 1 ad. ♀ (No. 8795; November) from the sea-shore opposite Duiker Klip, near Hout Bay, and 1 juv. ♀ (No. 3792) from the sea-shore at Oukraal, near Camps Bay, all found under stones just above high-water mark by my wife and myself. Both localities lie on the western shore of the Cape Peninsula between Camps Bay and Hout Bay. I have also seen a specimen, no doubt, belonging to the same species, much higher up on the mountain side, and have taken a very young specimen on Signal Hill.

The species is very closely allied to *B. crepidulifera*, Pure. (Ann. S. A. Mus., v. 2, p. 214, 1901), but differs in the dentition of the chelicerae.

♂ ♂ (*Types*). *Colour* pale ochraceous, the distal and proximal part of the legs and the under side of the body very pale yellowish, the head-plate and the abdominal tergites faintly tinged with brown in places, the anterior margin of head-plate finely blackened.

Head-plate with medium-sized and longish spines at the sides and in front (longer than those in *crepidulifera*), and in addition with a number of minute brown spinules scattered over the surface.

Chelicerae.—Dorsal finger strong; its upper edge straight (except distally, where it curves downwards), without differentiated distal bristle; its ventral edge with an inner, very blunt, laminate tooth and a smaller, more conical, outer tooth next to one another near the apex, and followed by 2 strong pointed teeth, the distal one of the 2 latter having its posterior side longer than that of the proximal one; then follow 2 smaller teeth and the teeth of the double series. Ventral finger with the usual small tooth between 2 large ones in the middle, but in addition with another tooth about midway between the large distal tooth and the apex of the finger. Flagellum very like that of *crepidulifera*, but with the stalk longer and the expanded portion more ovate.

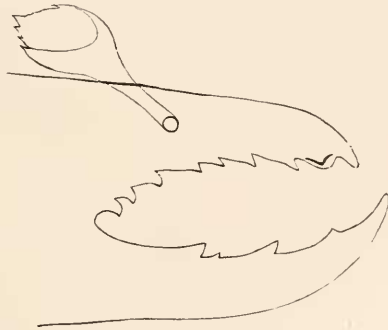


FIG. 3.—*Blossia litoralis*, n. sp., right chelicera of ♂ from outer side (the base of the flagellum shining through the translucent jaw).

Abdomen as in *crepidulifera*.

Pedipalps with the dorsal cylindrical bristles on the tibia as long as those on the metatarsus (as in *crepidulifera*, *karrooica*, &c.); tibia with strong spines below; metatarsus with 3 stout spines below, the proximal one longest and about twice as long as the inferior cylindrical bristles.

♀ and juv.—*Head-plate* with the numerous short setæ more cylindrical, the stouter ones being dark brown but not spiniform. *Pedipalps* with 3 stout spines below on both tibia and metatarsus. Dentition of *chelicerae* normal, the dorsal finger with only 1 intermediate tooth.

Measurements.—♂ ♂ 11½, large ♀ 16 mm. in length.

GEN. MELANOBLOSSIA, n. g.

Head-plate almost semicircularly produced in front. Ocular tubercle with a semicircle of fine setæ on the medial side of each eye. *Chelicerae* rapidly narrowed in the middle part, stout at base. *Pedipalps* short, the tibia and metatarsus without spines below. Legs short, posterior femora not thickened but several times as long as wide; metatarsi of second and third legs with dorsal spines; tarsi of second and third legs 1-jointed, those of fourth leg 2-jointed and slender, the distal joint shortest.

Adult ♂ with fleshy hairs on the second abdominal sternite. Flagellum not rotatable, consisting of a flexible, densely hairy rod directed forwards and lying against the inner surface of the upper jaw, and so completely hidden between the *chelicerae*.

Type: *M. braunsi*, n. sp.

The two species described below differ rather considerably in the convexity of the head-plate and in the denseness of the covering of short setæ. The small flagellum of the typical species so closely resembles the adjacent hairy setæ that it would be difficult to recognise it but for the presence of the conspicuous flagellum in an exactly similar position in *M. globiceps*, n. sp.

MELANOBLOSSIA BRAUNSI, n. sp.

Specimens.—1 ad. ♂ (type, No. 10,092) and 6 immature specimens (Nos. 8781, 9762), collected at Willowmore, Cape Colony, by Dr. H. Brauns, who first discovered the species. Also, 1 juv. from Hanover, collected by Mr. S. C. Cronwright Schreiner.

Diurnal; adult ♂ found on December 1, 1901.

♂. *Colour* for the most part black; thoracic tergites brownish yellow; tergites of first 5 abdominal segments brownish in the middle but more yellowish laterally; sternites of abdomen yellow in anterior but reddish in the posterior segments, the soft skin at the sides deep black; coxæ and trochanters yellowish but more or less strongly infuscated; malleoli black-edged; legs black, with peculiar blueish-white sheen on the dorsal surface of the metatarsi,

tibiæ, and distal part of femora (also observable on the tarsus and metatarsus of the pedipalps).

Head-plate with some longer and shorter, fine, notched setæ above but not densely clothed with minute cylindrical bristles; the surface moderately convex, the hinder portion inclined and not rising perpendicularly; head-plate and thickened portion of chelicerae together oval in outline and distinctly longer than broad.

Chelicerae with fine notched bristles. Dorsal finger strongly laterally compressed, forming a vertical lamina, except quite at the base; the upper edge rising convexly from the base; the lower edge concave just before the middle; apical fang small, curved downwards, followed by a series of 6 small teeth, the 2 distal ones on a prominent convex edge; the seventh tooth large, followed by 2 large outer and a couple of very long inner teeth. Ventral finger longer than the dorsal one, with the usual 3 teeth. Flagellum small and incon-

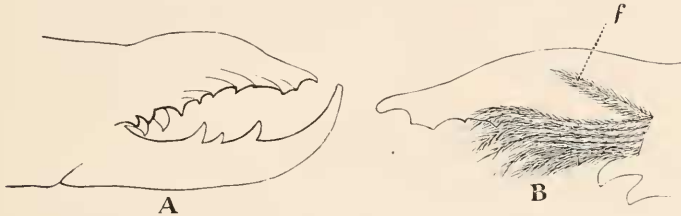


FIG. 4.—*Melanoblossia braunsi*, n. sp. A, right chelicera of ♂ from outer side; B, dorsal finger of right chelicera from inner side more highly magnified to show the flagellum, *f*.

spicuous, being merely a straight, hairy, pallid rod, resembling one of the series of hairy setæ placed immediately below it (see fig. 4B) on the inner side of the dorsal finger above the space between the two large basal teeth.

Pedipalps clothed, but not densely, with long and short notched bristles, some of those on the under side, especially of the tibia, stouter and longer.

Abdomen with blackish brown or black setæ and hairs; second segment with a group composed of a pair of long, narrow, clavate, brownish, acutely pointed, fleshy hair-structures on each side on ventral surface; genital sclerites forming a long, narrow, spindle-shaped area, exceeding half the sternite in length.

Immature ♀♀.—First 4–5 segments of abdomen as in ♂ or more yellowish, especially in younger specimens, posterior segments dark brown; under side of abdomen yellowish. In young specimens the

dark pigment is less intense, and the tibiæ and metatarsi of the legs are pale yellowish, with the dorsal glaucous sheen.

Chelicerae.—Dorsal finger with first and third tooth large, the second and fourth small, the fifth larger than the fourth, followed

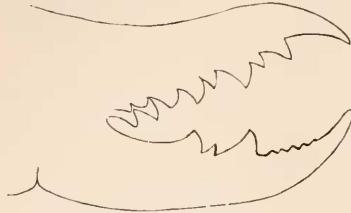


FIG. 5.—*Melanoblossia braunsi*, n. sp., right chelicera of ♀ from outer side.

by several small outer and some inner teeth. Ventral finger with the usual 3 teeth in the middle, but in addition the terminal fang is minutely denticulated above in front of the large distal tooth.

Measurements.—Ad. ♂ $6\frac{3}{4}$, largest immature ♀ $9\frac{1}{4}$ mm. in length.

MELANOBLOSSIA GLOBICEPS, n. sp.

Type.—1 ad. ♂ (dried specimen, No. 1056) from Namaqualand, Cape Colony, bearing the label "O'okiep, G. Worden, 1886."

♂. *Colour** black, the legs whitened apparently in much the same way as in the previous species.

Head-plate broad and high, strongly convex, the posterior surface rising vertically; posterior and lateral margins semicircularly rounded and forming with the thickened basal portion of the chelicerae a complete circle; surface of head-plate thickly covered with very short and numerous, blackish brown, cylindrical or pointed bristles, and provided also with a few long setæ.

Chelicerae very stout at the base but strongly and suddenly narrowed in the middle, furnished with rather fine, dark brown, longish setæ but without short ones like those on the head-plate. Dorsal finger strongly laterally compressed, lightly curving downwards distally, the upper edge rising convexly from the base, the lower edge sharp and laminate, sinuous, being lightly convex in the middle but lightly concave in front of and behind the convexity, the edge without any large teeth but with 4 small recurved teeth. Ventral finger equalling the dorsal in length and straight, the apex

* In old dried specimens it is not always possible to give the colour in detail, owing to discoloration of parts of the body.

shortly upturned, the upper edge provided with 4 teeth near the middle, of which the proximal and distal ones are large and equal and the 2 intermediate ones smaller, the proximal intermediate tooth being the smallest of the four; the upper edge also minutely and unevenly denticulated or roughened in front of the distal tooth. Flagellum much larger and more conspicuous than in *M. braunsi*, n. sp., but similarly situated, formed of a curved pallid rod densely



FIG. 6.—*Melanoblossia globiceps*, n. sp., right chelicera from inner side.

covered with soft pallid hairs, those at the apex longest, forming a club.

Pedipalps stout and shortish, with long, fine, brown hairs and setæ and densely covered besides with short and very numerous, blackish brown, mostly truncated, cylindrical bristles, those on the upper side of the femur extremely short, those on the tibia, metatarsus, and tarsus longer.

Legs clothed, especially on the femora and basal segments, with numerous short, white, notched bristles, besides long brown hairs and setæ.

Abdomen with numerous white hairs at the sides and below, the second segment with a group of 8–12 long, filiform, pale yellowish, fleshy hairs spread over each half of the sternite.

Measurement.—Total length 9 $\frac{3}{4}$ mm.

SUB-FAMILY KARSCHIINÆ.

GEN. TOREUS, n. g.

Adult male without distinguishable flagellum. Upper lobe of rostrum bent downwards at apex, the upper edge of the apical

part curving strongly downwards and the lower edge horizontal

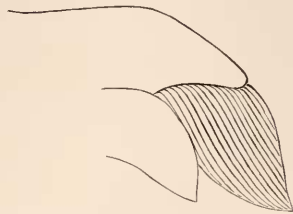


FIG. 7.—*Torus capensis* (Purc.), rostrum of ad. ♂.

and slightly concave; the setal plate strongly inclined, nearer the vertical than the horizontal. Other characters as in *Ceroma*, Karsch.

Type: *T. capensis* (Purc.), originally described as *Ceroma capensis* in Ann. S. A. M., v. 1, p. 339, figs. 15-15b, 1899.

In *Ceroma* the dorsal lobe of the rostrum is more evenly pointed and the setal plate less vertical.

The typical specimen, which was found in the Cape Peninsula, was originally described as a female of the genus *Ceroma* on account of the absence of the flagellum. The genital plate, however, is that of the adult male.

GEN. LIPOPHAGA, n. g.

Head-plate with the anterior margin only slightly curving forwards. Ocular tubercle slightly projecting beyond the anterior margin, its anterior surface without hairs but bearing a pair of spines placed on a pair of prominent conical tubercles. Pedipalps of moderate length and rather stout; the metatarsus appearing slenderer towards the base, especially when seen from the side, its under side with numerous truncated cylinder-bristles. All the legs with a single tarsal joint and small pulvillus; the first leg with a pair of minute claws; metatarsi of second and third pair with 4-5 stout dorsal spines and several slenderer inferior spines, that of fourth leg also with inferior spines. Chelicerae with a series of very short ridges at anterior edge of the large smooth area on inner surface.

Adult ♂ differing from the ♀ and young in having the chelicerae and head-plate much more strongly spined, the pedipalps somewhat longer and slightly stouter and provided with a row of strong spines on the lower inner edge of the tibia. Flagellum not distinguishable. Upper lobe of rostrum with the lower edge slightly concave and the

upper edge convex, the apex, however, scarcely downcurved; lower lobes about as long as the upper lobe.

Type: *L. trispinosa*, n. sp.

The local name of this and other *Solifugæ* is according to Mr. Goold "*Vet-vreter*" (Fat-eaters).

LIPOPHAGA TRISPINOSA, n. sp.

Specimens.—5 ad. ♂♂, 1 ad. ♀, and 3 juv. (No. 10,091) from Stompene and Soldatenpost at St. Helena Bay, Malmesbury Div., Cape Colony, found by Mr. J. E. C. Goold under stones in May and June, 1902.

♂♂ (*Types*). *Colour* very pale yellowish. Chelicerae with a lateral and 2 dorsal, darkly infuscate stripes, which unite distally, the upper and outer surface besides with generally somewhat indistinct, infuscate reticulation. Head-plate strongly infuscated, the greater part (middle and posterior portion) being covered with a fine but indistinct and blurred reticulation, excepting the narrow transverse anterior band and a large, oblique, antero-lateral patch on each side, which are more uniformly infuscated; median line yellow; ocular tubercle deep black. Abdominal tergites more or less extensively infuscated at the sides and in the middle, but with a large yellow area on each side of the median patch; some of the segments infuscated also along the anterior and posterior margins. Pedipalps with the 3 distal segments and the distal half of the femur infuscated, the under side of the femur and tarsus, however, and to some extent that of the metatarsus and tibia, pale yellowish. Legs partially infuscated, principally on the sides of the femora, tibiae, and proximal part of the metatarsi.

Head-plate.—Hind margin with 4 very strong, large, equal spines, besides a smaller outer spine on each side and a number of still smaller ones scattered between the large spines; whole surface densely covered with minute cylindrical bristles and provided with some stout, medium-sized and small, scattered spines, especially towards the sides.

Chelicerae with numerous, stout, pointed spines, many of them quite short and conical, on the upper and outer surfaces but with no distinguishable flagellum. Dorsal finger conical, nearly straight, the terminal fang strong, slightly curved; distal tooth moderate, second tooth small, third large, fourth small, fifth and sixth large—then follow 2 small teeth, a large one and several small ones; inner row composed of a few basal teeth. Lower finger considerably longer

than the upper, with 3 strong teeth near the middle, the intermediate rather large but smaller than the other two.

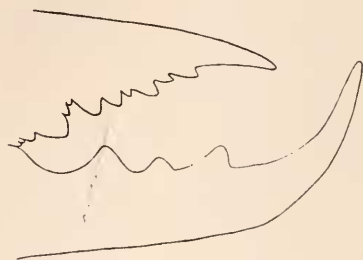


FIG. 8.—*Lipophaga trispinosa*, n. sp., right chelicera of ad. ♂ from outer side.

Pedipalps (like the legs) densely covered with minute cylindrical bristles; under side of tarsus and metatarsus with numerous, moderately long, truncated, cylindrical bristles; tibia with scarcely any of the longer cylinder-bristles below, but with 3 powerful spines in the distal half along the inner inferior margin, in addition to a few smaller slender spines; femur with several inner spines.

Abdomen.—Genital sclerites forming a long spindle-shaped area and considerably exceeding half the sternite in length.

♀. The infusate reticulation on the chelicerae and head-plate very distinct and sharply defined. *Head-plate* and *limbs* without the dense coat of minute cylinder-bristles; the spines on the former replaced by long spiniform setae (except on the ocular tubercle). *Chelicerae* also with the stout spines replaced by spiniform setae and slender spines, somewhat larger than in the ♂, the upper finger strongly curved downwards at the apex, the dentition as in the ♂; lower finger not longer than the upper. *Pedipalps* with fewer cylinder-bristles on the under side of the metatarsus and tarsus, the spines on the tibia and femur replaced by much slenderer, long setae. *Genital sternite* with the posterior median cleft very deep, extending through more than half the length of the sternite, the inner hind angles rounded off.

The *young* resemble the female (except in the genital sternite).

Measurements.—Total length of ♂ $15\frac{1}{2}$ mm., ♀ $20\frac{1}{2}$; length of head-plate in a ♂ 3, ♀ 3, of pedipalp (exclusive of coxa) in ♂ $12\frac{1}{2}$, ♀ $10\frac{1}{2}$.